

# **Sanitary Sewer Smoke Testing**

**Beginning March 31, 2014**

The City of Brunswick will be conducting smoke testing on the City's sanitary sewer system beginning March 31, 2014. Smoke testing will occur over several weeks. Testing areas will vary depending upon length of time needed at each location. Please check the City website at [www.brunswickmd.gov](http://www.brunswickmd.gov) or the City's Facebook page for daily updates regarding testing locations. Residents are also encouraged to visit this website for general information about smoke testing. Residents are not required to be at home when testing is being completed in your area.

Smoke Testing is used to detect storm water inflow sources such as roof downspouts, driveway and yard drains, foundation drains, and storm water drainage system cross connections. It can also detect structural deterioration and leaking joints in sewer pipes. Smoke testing is one of the most efficient and cost effective methods of locating sources of inflow and infiltration (I&I) within a sewer system.

## **How does smoke testing work?**

City of Brunswick staff will complete the field work associated with the smoke testing project. City crews have a two to three man crew use a high capacity blower and force "smoke" down into manholes. The smoke, under pressure from the blower, travels through the sewers and escapes through any connections, defects, cracks, leaks, etc. along the way. This quickly reveals sources of inflow and infiltration within the study area.

After placing the blower and filling the lines with smoke, the crew will perform a visual inspection of where the smoke is escaping. Close attention is given to sanitary lateral cleanouts and roof downspouts. It is not uncommon, however, to see smoke coming out of the grass, wooded areas, or cracks in pavements. All smoking sources are documented via measurements and pictures/video to make it easier to find these sources at a later date.

The smoke is non-toxic and non-hazardous and is manufactured specifically for this purpose. It leaves no residuals or stains, and has no effects on plants or animals. The smoke should not enter your home, but if it does, it will have a distinct odor and should only last a few minutes with proper ventilation. Please note, all plumbing fixture drain traps must be filled with water prior to smoke testing. See instructions below.

## **Resident Notification**

Residents are encouraged to check the City website at [www.brunswickmd.gov](http://www.brunswickmd.gov) or the City's Facebook page for daily updates regarding testing locations. Testing locations for the following work day will be published daily after 3:30pm. The City of Brunswick Fire and Police Departments, as well as Frederick County Central Alarm, will be made aware of the smoke testing areas.

## **Important Instructions for Residents Prior to Smoke Testing**

- Make sure all drain traps and plumbing fixtures have water in them. Fill seldom used drains (such as garage sinks, etc.) with water by running the faucet for 30 - 60 seconds or filling the drain with approximately 3 cups of water. This will prevent smoke from entering your home.
- It is a good idea to prepare drains by Monday, March 31, 2014. This only needs to be done once before testing begins.
- You do not need to be home during the smoke testing field work.
- Smoke should not enter your home, however, if it does this could be an indication of a defect in your plumbing system. This defect could allow sewer gases to enter inside your home, which is a potential health hazard. Corrections of such defects on private property are the responsibility of the property owner, and a licensed plumber should be consulted to ensure the proper corrections are made. If smoke does enter your home or building, please notify the field crew who are conducting the test or call Public Works at 301-834-6270 as soon as possible.

## **After Smoke Testing has Concluded**

The smoke testing crews will compile a list and photo/video documentation of deficiencies uncovered throughout the smoke tested areas. Deficiencies will be in both the City right-of-way as well as private property. The City will prioritize the problem areas and start work to correct issues right away. Identified I&I sources or deficiencies will need to be corrected in a timely manner.

If smoke sources are found on your property, the City will provide a letter to the property owner explaining the deficiencies found and giving him/her options on how to correct them. This letter will have a specific deadline for corrections of deficiencies. Often times, deficiencies can be easy fixes. A list of licensed sewer contractors will also be included in the letter. The City Department of Public Works is also available to discuss

such issues by phone.

For more difficult corrections, the City will give an extended deadline and ask that the property owner contact a licensed sewer contractor for consultation. More difficult corrections could include cracked sanitary laterals, tree root issues, or re-routing drainage. It is impossible to know the extent of these more difficult corrections until testing is underway. Remember, correcting these problems will be beneficial to everyone involved. Keeping sewer rates low and preventing water quality violations are the goals of this work.

## **Correcting I/I Sources on Your Property**

### Cleanout Caps

A broken/missing or non-watertight sanitary lateral cleanout cap can allow excess storm water to enter the sanitary sewer system. This is especially true when the cleanout cap is in a low lying area or within an impervious surface. Cleanout caps can be relatively easy to change and under most circumstances, the broken cap can be removed and a new water tight cap can be put back into place.

### Downspouts

Downspout connections can add as much as 800 gallons of clean storm water to sanitary sewers during a one inch rain event. This clean water source must be eliminated to prevent sewer backups into basements and sanitary overflows at manholes.

Downspouts can be disconnected by cutting the spout, capping or plugging the ground pipe, and installing an elbow and horizontal spout to extend a minimum of five (5) feet away from the home. Flexible downspout elbows can be a relatively inexpensive and easy to install. Many options exist for the types of elbows and extensions you may need for your home. Some downspout extensions even roll themselves back up after the rain is done.

### Ground

Areas where smoke came through the ground indicate a possible broken private lateral sewer to your home. This smoke can signal a cracked section, root intrusion, misaligned joints, or an offset section of pipe. All of these can lead to collapsing or plugging of

your lateral sewer, which would lead to a sanitary back-up into your home.

The best way to check the condition of your sanitary sewer lateral would be to have an inspection done by a licensed sewer contractor. These inspections usually include some type of video inspection of the pipe using CCTV (Closed Circuit Television). This will allow the plumber to see exactly where problems exist.

*Please contact the City of Brunswick, Department of Public Works at 301-834-6270, if you have any questions about locating or correcting the I&I source(s) found on your property.*

## **Smoke Testing FAQ**

### ***What exactly is a Smoke Test?***

A crew from the City of Brunswick will use a high capacity blower technique to test each sewer line with smoke. Smoke blowers are placed on manholes and smoke is blown through the sewer system. Any location where smoke is identified during the test, except plumbing vent stacks, is a potential I&I source for storm water to enter the sewer system. These locations will be documented via pictures and sketches.

### ***What is the benefit to the City for performing a Smoke Test?***

Smoke testing is one technique utilized to identify sections of sewers that may exhibit inflow during heavy rainfall. Smoke testing is best used to detect inflow sources such as roof downspouts, driveway, yard and area drains, foundation drains, faulty connections, and storm water drainage system cross connections. It can also detect structural damages and leaking joints in sewer pipes.

### ***How will residents know when Smoke Testing will be performed in their area?***

Residents are encouraged to check the City website at [www.brunswickmd.gov](http://www.brunswickmd.gov) or the City's Facebook page for daily updates regarding testing locations. Testing locations for the following work day will be published daily after 3:30pm.

### ***How are City crews recognizable in the field?***

City of Brunswick personnel are uniformed. Crews operate from vehicles with proper signage for ease of recognition.

***Is the smoke that is used hazardous?***

The smoke that comes out of the vent stacks on houses or holes in the ground is non-toxic, harmless. It does not create a fire hazard. The City Police and Fire Departments, as well as Frederick County Central Alarm, will be made aware of the test areas and schedule.

***Do residents have to do anything to prepare their homes for Smoke Testing?***

Plumbing drain traps need to be filled with water to prevent the smoke from entering the building. Run the faucet for 30-60 seconds or pour about 3 cups of water in sink drains, filling the traps. Make sure to check seldom used drains and fixtures in your home. It is a good idea to prepare drains by Monday, March 31, 2014. If smoke does enter, the resident should consult a licensed plumber. If smoke from the testing can enter through faulty plumbing, the potential exists for dangerous sewer gases to also enter the home.

***Does the resident need to be home when the Smoke Testing is performed?***

Homeowners do not need to be home and at no time will field crews need to enter the residence. Crews will be documenting the testing, taking photos and measuring distances so that the defects may be found at a later date and repaired.

***What happens after the smoke testing has been completed?***

The City will notify residents who need to make corrections with a letter explaining the nature of defect found, ways to correct it, and a list of licensed sewer contractors who can make corrections, if need be. Again, most corrections can be easy fixes.